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United States Patent and Trademark Office
Commissioner for Patents
P.O. Box 1450
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Subject: Application/Control Number: 10/658,085

Dear Patent Officer:

This letter is in response to your Office Action dated 06/21/2006 related to the subject patent application. Thank you for your suggestions and examination comments on my patent application. My responses to your comments are as follows:

1. Regarding the suggested title for the invention, I would like to change the title to "On-site Industrial Ammonia Plant". The term "on-site" indicates that the ammonia is produced on-site for use for the host site. Thanks for this excellent suggestion.
2. Regarding the claims with insufficient details to comply with the written description requirement as outlined in 35 U.S.C. 112, we have deleted the first claim and rewrite the two remaining claims as follows:

CLAIMS:

A process to make ammonia on-site that embodies the following methods of ammonia condensing and heating.

1. A method of condensing ammonia from the ammonia synthesis reactor effluent gas by the use of auto-refrigeration. In the current art, mechanical refrigeration is used to condense ammonia vapor from ammonia synthesis reactor effluent. The auto-refrigeration method takes advantage of pressure gradient between the high pressure (2000 psi or higher) ammonia storage vessel and the near atmospheric pressure at ammonia product vapor output. This allows the elimination of mechanical refrigeration.
2. A method of recovering waste heat from ammonia synthesis reactor for use in heating the ammonia vapor or ammonia/air mixture to about 300 °C for use in power plant air pollution control devices. The ammonia